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VIII.—*Plan for a direct Communication between the great Centres of the Populations of Europe and Asia.* By ASA WHITNEY, Esq., of New York. Communicated by the PRESIDENT.

[Read June 9, 1851.]

MR. PRESIDENT,—Permit me to say, that I feel myself deeply indebted for the honour which you have been pleased to confer on me by this opportunity of bringing before you my project to construct a means of rapid communication between the Pacific and Atlantic Oceans—a subject to which I have devoted the best part of my life, and one in which I feel that the entire human family is deeply interested.

A plan for making a railway may not perhaps be considered as within the sphere of your Society, but this is intended to be a great highway for the world; and to show what are its objects, as well as the results we aim at in its accomplishment, we must consider the geographical position of the principal parts of the habitable globe, as well as examine into the condition of its population; and we must go back a little into the past, where we see that commerce with civilization has for ages been travelling westward; that the commerce with Asia has built up all the states and empires of the past, all of which, in their turn, have sunk into decay; that commerce with civilization has reached the extreme west of Europe, which, with this small island and the United States of America, now controls the commercial world. Is it to remain here, or will its march be still westward until it shall have encircled the globe?

First, we see that civilization and the mechanical arts have attained their highest point at the extreme west of Europe, where we behold an excess of population, so great, that labour no longer receives a reward adequate to supply the needful wants and comforts of life, and necessity creates and induces immorality, vice, and crime to an alarming extent; thus rendering such a population immensely burdensome.

Secondly, almost directly opposite, in China (the highest point of civilization on that side of the globe) are the same difficulties, augmented by the fact, that the natives are not a great maritime people, and have no means of conveying their surplus where nature has provided sufficient space to supply their wants; hence they are actually forced to destroy the life of some in order to preserve that of others.

It appears to me that it should be the first grand object with the statesman and the philanthropist to carry into execution, if possible, some plan by which the great and constantly increasing difficulties, so manifest at these two points of extreme civilization, could be ameliorated. I believe that it can be done. With

such an object in view I have proposed the construction of this great highway.

On my map I have made three grand divisions of the earth,—Europe and Africa as the first, separated by the Atlantic from the second or the American continent, between which and all eastern Asia, or the third division, is the Pacific Ocean. Hence it will be seen that the American continent, by Nature's decree in the formation of these two great oceans, appears to be the great geographical, commercial, and political centre of the world; and it is remarkable that almost the entire population, as well as the greater part of the habitable earth, is on this belt, to the north of the tropics. We find that almost the whole of the North American continent, excepting Oregon, slopes to the Atlantic directly fronting western Europe, with an unoccupied area, sufficient, during ages to come, for all the surplus populations of Europe, who are now wending their way thither by hundreds of thousands annually; and while Europe has no tropical productions, the American continent presents all the soils and climates of the earth, with all their varieties of products, excepting those peculiar to the commerce of Asia with Europe. Now, the construction of this road would open to settlement and production the most extensive and most important part of this American continent; it would give homes and employment to the surplus population of all Europe, and furnish to every man the means of supplying his own natural wants, with a surplus, for which this road would be the means of cheap transport, to supply the wants of Europe and exchange for mechanical productions. It appears that Nature has intended North America for the uses of the surplus population of Europe. It is more easy of access, and exchanges can be made there at much less cost for transport, than any other part of the globe, and in a climate suited to natives of the north of Europe. Besides which, when we look at the Pacific side, we find that Nature's division—a chain of mountains—ranges close to the ocean all the way from Cape Horn to Upper California, so that the space for population is small on the western side, and Nature has not been pleased to place any important islands near that coast. As we go northwards to Oregon, we find a climate as genial as that of England, a soil fertile, and capable of sustaining a population nearly as large as that of all Europe, and with fisheries extending to Tartary, which might employ millions of men, having China and all Asia for a market.

We look from this point over the Pacific, 5000 miles, to China, with her hundreds of millions of souls, and a surplus population beyond the ability of their land to sustain. They have already extended themselves as far north as the soil and climate will yield a reward to man's toil; but they have not the means of reaching the islands, now occupied chiefly by the pirate or the cannibal,

which Nature seems to have intended for the Chinese, and not for Europe or the cannibal. They can look forward to no hope of any amelioration of their condition, unless such as may come from us.

The proposed road is intended to furnish that hope, by making a cheap and rapid means of intercourse between them and Europe across the American continent, which would indirectly offer soon the means of removing their surplus population to Borneo, New Guinea, Australia, &c., and augment on that side of the world the amount of the products which form their commerce with Europe ; while the facilities which it will have rendered to settlement and production will increase the ability and desires of both Europe and America to make exchanges with them, and supply each other's natural wants and comforts, as well as improve their physical and moral condition. Can these great objects be accomplished by any other way or means than those which I have to propose ?

The commerce of Europe with Asia remains nearly stationary, and cannot be increased unless some great change can be effected in the condition of the people, so as to give to each side the means to consume more of the other's products and commodities. New routes for intercourse, and new means for transport, have been proposed with a view to effect this most desirable object. Suez has been named as one of these routes ; but Mr. Robert Stephenson, than whom there is no better authority, has been over that route, and he agrees with me, that, were Suez itself swept away, the great commerce of Europe with Asia would still go round the Cape of Good Hope, on account of the dangerous navigation of the Mediterranean and Red Sea, and on account of the bad climate. The Isthmus of Central America has been looked to during ages for a route between Europe and Asia ; but here the difficulties of climate are greater than at Suez ; the navigation is dangerous and difficult, particularly for sailing vessels, which must be used, as the distance from London to China by this route would be about five times that from England to New York, and little or no merchandise could sustain a charge, such as even a screw propeller would be obliged to demand for transport ; besides which the distance, as compared with that by the Cape of Good Hope, is greatly against this route.

From London to Canton the exact measurement over a globe, *viâ* Panama, is 1560 miles more than by the Cape of Good Hope ; but the voyages by sailing vessels have made the difference 2430 miles in favour of the Cape route. Between London and Singapore the exact measured difference would be 3600 miles against Panama. Between London and Sydney the Panama route would be 390 miles less than that by Cape Horn, and 180 miles less than by the Cape of Good Hope, but sailing vessels

have made the difference greatly against the former. To Western Australia the Cape of Good Hope route would be 3360 miles actual measure less than by Panama, and the sailing difference is still greater. This is a subject on which anybody may be satisfied who will take the trouble to measure a globe; comment is here unnecessary, because these are geographical facts, and arguments cannot change them. But were there an open strait at Panama that would allow sailing vessels to pass through it as easily as round the Cape of Good Hope, what would be the gain? Commerce could not be increased, because the condition of the populations of both Europe and Asia would remain precisely as they now are; no new and inaccessible country could be opened to settlement and production, and no new means created to increase and sustain commerce. All the different parts and people of the world would remain precisely as before.

We see, Mr. President, in this remarkable geographical arrangement which the American continent presents to the world, as well in soils, climates, and products, as in population and vacant space for occupation and support, so equal a division, that it would seem as if Nature has intended it as the watershed to divide the commerce and intercourse of the world. And it must be clear that these two sides cannot make exchanges with each other to any considerable extent, because their soils and climates are the same, and after a little while their products will also be the same; nor can the western side, owing to greater cost for transport, compete with the eastern side in supplying and exchanging with Europe.

In looking now at the geographical and commercial position of this western slope of the American continent, we find that Oregon not only commands the entire slope, but that it also commands all the islands and all Eastern Asia, with the best possible navigation to and from the islands and the Asiatic coast.

Going to the east "the trades" would be taken: while returning west, the northern and shortest route would be made with "the variables," or westerly winds, having thus a fair wind both ways.

As compared with Panama, the actual measurement of the globe will show a great difference in favour of a route by Oregon. We will first take the Marquesas, the nearest of the islands to Panama, where we find a difference in favour of Oregon, and the difference increases with other parts until our measuring-line reaches across the entire American continent and half way to Europe, while a sailing-vessel bound from any of these islands or points to Panama would, owing to the trade winds, be forced to run north towards Oregon before directing her course for Panama. Now, with this commanding position, with all the natural ele-

ments for wealth, power, and greatness, and with the recent developments in California, what are we to expect, but that the energy, the enterprise, capital, and labour of both Europe and the Atlantic side will be drawn there, and be the means of pushing forward into power a nation possessing the best of our energy, our skill, and our genius?

Remote as they will be from us, with a heavy cost for transport, is it reasonable to suppose that their intercourse and exchanges with us will not be limited to and governed by actual interest? And with the immense commerce at their command with the one half of all the world, of which they will be the sole carriers, may we not expect that they will successfully establish the mechanical arts, so as to supply most of their own wants, and make their own exchanges of the various products and commodities of their various parallels and climates to greater advantage than with Europe? And the commerce of Europe with Asia, which England now controls, will it not, with her people, capital, and enterprise, be gradually transferred to that point?

These are no new views, nor are they based upon the recent developments in California; they were matured and placed before the world long before the boundary question of Oregon became a subject of agitation between England and the United States. They were based upon the geographical position of the country, and upon its natural resources, with the certainty that so soon as security could be given to persons and property, the American whale fishery would be transferred there, when small vessels might be built and fitted out to make three and four cruises in a year, now requiring from the Atlantic side two to four years; that fishery then employed 20,000 of the very best seamen, who, with their families, would make 100,000 souls, to which might be added almost immediately 300,000 more to till the earth and commence a commerce with that coast, with the islands, and with Asia. Here would have been a foundation for a great nation, such as the world perhaps has not known; but the events in California are hastening more rapidly in another form, though not so healthily, the results which I had foreseen in the distance; and if my views and positions are correct, are we not sending away our capital, our enterprise, and our labour to build up a powerful separate nation, in whose prosperity, greatness, and power we can participate only to a limited extent, unless we can get some direct, cheap, and rapid communication with them, so that our interests may be united, and each participate in the advantages of local position with the prosperity, power, and glory of the other? The road, which I propose to make, will, unless I am very greatly mistaken, secure to us for ever these grand results.

But we know that a railway cannot be made without means,

and for a road of 2030 miles through an entire wilderness, a very large amount of available means would be required ; an amount so great that no capitalist would invest in such an enterprise, because he could have no reasonable hope for any return ; and no government, certainly not that of the United States, could undertake such a work with any hope of success. Even were it completed, and its earnings looked to for the annual interest on its cost, that would be fallacious, because the charges on transport for that object would exclude traffic, and the objects aimed at by the work could not be accomplished. To meet all these great difficulties, I have recommended a new plan for this great work, one which, while it costs the nation nothing, will, *in creating itself*, add as much actual wealth to the world as the road may cost for its construction, give to the world a free highway, and in doing so, furnish employment, homes, and plenty to millions, who otherwise would be destitute ; besides which it will open to usefulness the now uncultivated wilderness.

I propose to take the wilderness lands as my basis of means. The Bill now pending before the American Congress, and which has received the unanimous sanction of several of its committees, as well as the almost unanimous sanction of 21 State Legislatures, and of the people of the United States generally, proposes to set apart and sell to me, as an individual, 60 miles in width of the public domain, extending from Lake Michigan to the Pacific Ocean, in all about 78,000,000 of acres,\* for which, upon completion, I agree to pay into the public Treasury 10 cents. per acre. The first 800 miles of the line include lands that are all of the very best quality for agricultural purposes, easy of settlement, and ready for a crop, being mostly prairie. On this extent is based the means for this work, and, in order to secure it to the nation, this space of 800 miles of good land is to be divided into sections of 10 miles by 60 each, and when each section of 10 miles of road shall have been completed, then I shall be allowed to sell one-half of this section of land, say 5 miles by 60, or 192,000 acres, to reimburse my outlay for the 10 miles of road ; and should it sell for more than that sum, the excess will be my profit. The other half, 5 miles by 60, will remain unsold, and be held as a fund to be used in carrying the line beyond this 800 miles of good land, where the sale of the whole section of 10 miles may not prove sufficient to reimburse the outlay on the 10 miles of road made through it. In this manner the 800 miles of good land at the first end of the line is made to furnish means for 1600 miles of the road ; the other 430 miles is provided for from the 100 miles of good land on the Pacific side, and from the

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\* New Zealand contains about 62,000,000 acres.

1100 miles intermediate, some of which is good ; and a large portion would be made available for settlement in consequence of the road passing through it. After the work shall have been completed, and shall be in successful operation, all the surplus lands would be my reward for the work ; but though the title to the road would vest in myself and my heirs or assignees, still Congress would hold the power to regulate the charges for transport, and keep them at an amount required for the expenses of operation and repairs, thus making it a *free* road.

The tide of emigration to the United States is such, and the settlement in the immediate neighbourhood of the proposed route is so great, that there can be no doubt, with the facilities which the road would render to settlement, besides the advantages of a cheap means of transport to market, that there would be a demand for the lands on its line to an amount quite equal to any sum that could be profitably employed in making it. It would not, however, be necessary to confine its progress to the amount of actual sales of the lands, because the lands being the basis relied on, capital would look to them, and not to the road, for a return or for interest ; and as the sale under any circumstances would far more than meet the annual interest, and as the security would be daily augmented from the enhanced value which the operation and advancement of the road, as well as from partial settlement, would give to the unsold lands, the longer they remain unsold the greater would be the return for the investment on them. With 19,000 families, or 95,000 souls, per annum, and allowing each family to purchase 160 acres of land at the usual price, I could complete this great work in 15 years ; yet this is only about one-fourth of the annual emigration from Europe to the United States ! The settlements in Wisconsin, between Lake Michigan and the Mississippi River, directly in the neighbourhood of the proposed route, have exceeded 100,000 souls per annum for several years ; in Iowa, W. of the Mississippi, it has exceeded 50,000 per annum ; and in Winconsin, N. of the proposed line, the settlements of last year were estimated at more than 50,000 souls, and all this without any of the facilities and stimulants which the formation of such a road would create.

I make this explanation in order that the subject may be fully understood, and not with a view to procure capital or to solicit investment, because it is a plan which must provide for itself ; still, when under way, the lands will afford the safest and most profitable investment ever offered to the public, being constantly increased in value, and subject to no changes from state legislation or state embarrassments.

Capitalists and practical business men, here and in the United States, have full confidence in the plan ; and the necessary amount



of capital for its commencement is at the command of the Bill, so soon as it may be enacted into a law by Congress.

Mr. President, before I embarked in this great enterprise I counted well the cost. It had been my lot to have been extensively and actively engaged in commercial pursuits with the different parts of the world, which gave me a knowledge of mankind sufficient to understand what I was about to take upon myself, and to comprehend what I might expect to encounter in toils and trials necessary to satisfy public opinion, and to carry out the work. And the first trial was in satisfying my own mind before I could persuade the public to take an interest in it: those who esteem a reputation, and regard public opinion, can appreciate this trial.

To make this preparation I spent two years in Asia, where I collected statistics of population, of commerce, of products, and resources of China and the islands particularly, but of all Asia generally. I studied their manners, habits, and wants, and examined the condition of the people, so as to ascertain for myself the probable results which the successful opening of this great highway might influence.

From the geographical formation of the North American continent I was assured of a feasible route; but in order to be fully satisfied on this point, as well as to be sure that my basis for means was solid and available, that materials with facilities for carrying on such a work, as well as for the settlement through the wilderness, did exist, and that the streams could be safely bridged, so as to give an uninterrupted intercourse from ocean to ocean without transshipment, in the summer of 1845, eight months after my return from Asia, with a company in all of seven, I traversed a large distance of the country through which the proposed road would run. I examined the streams (the Missouri for 1500 miles), the Mississippi, and others, to ascertain the points at which they can be bridged. I was on the Missouri in a canoe for 27 days. The result was satisfactory. I found that for the route which I had proposed *all* the streams could be bridged; I found the country beautiful, and for the plan I had laid down well adapted to settlement: though mostly prairie, there is an abundance of coal, and by starting at the point which I have proposed, there will be materials and facilities for the work, as well as for settlement.

My own personal examinations, as far as the South Pass, prove that the ascent is gradual, and not great; thence to the Pacific the streams which flow into the Columbia will be followed. The elevations all through have been taken at three different times, and show the route to be feasible. This exploration was one of severe toil and hardship, and I was often without food for days, and 85 days without being under a roof.

The route is remarkable, as will be seen by the geographical formation of the country. Here, at what is called "the South Pass" (an open plain of 30 miles in width), the waters running into the Atlantic on the E. and those which flow into the Pacific on the W., are separated. To reach this point from the E. the ascent is so gradual as to be scarcely perceptible. From the proposed starting point of the road on Lake Michigan the distance is about 1200 miles, and the entire elevation to overcome in the whole distance is about 6000 feet. On the Pacific side the country is more mountainous, but there are no insurmountable difficulties in following down the streams, which are without any great rapids; and it is remarkable that there is no feasible route S. of this. From the 32nd to the 42nd parallel there is no route by which the mountains can be avoided, and the great arid plains would also present insuperable obstacles.

From the 98th meridian, westward, the earth is not productive, except by irrigation, and there are three high mountain-ranges traversing this parallel from N. to S. Farther northward, however, there is a practicable route over British territory, to which line the attention of the public has been directed by my friend Major Carmichael Smyth and others.

The route which I have proposed to take is not only the sole feasible one on the United States side, but the only one *in the same* where the lands can be made available, or capable of settlement to any great extent, and the only route where all the streams can be bridged; besides which, on a great circle of the globe, it is the shortest route between any of the Atlantic cities and the Pacific; while the proposed terminus at Puget Sound is in the only harbour and climate suitable for such a commerce.

The Halifax, Quebec, and Montreal roads will run on to join Michigan, to be connected with it S. of the lakes; besides, all Canada would have free access to it by the lakes, and we should have the shortest route (*except on the English territory*) across the American continent between Europe and Asia.

As compared with Central America the difference is immense, as will be seen by measurement on the globe, the actual difference being 3840 miles; and as compared with the Cape of Good Hope, it is 2100 miles; but, as voyages are now made, the difference would be much greater.

The saving in time, owing to better navigation and the great railway distance across the American continent, would be immense. The land journey between England and China could be made (allowing 30 miles per hour for railway and time for coaling, &c.) in 29½ days, and by sea with sailing vessels in 58:—now requiring an average of 120 days. From Halifax or New York to China the land-journey might be made in 19½ days, and the

voyage in 38 days, now requiring 120, and at a less cost for transport than by the present sea-voyage, besides having the advantages of a climate in which all commodities of commerce would be secure from damage or destruction.

It would require too much time to go into detail here, but I can show that, taking the actual as well as the estimated charge, for a large amount, and regular traffic on your railways costing 32,000*l.* per mile, and estimating freights by ships as it is charged by measurement of 40 cubic feet to the ton, and by railways at the actual weight, the commerce of Europe with Asia can be carried over this railway, if made, as proposed, *a free road*, so as to cause an immense saving in cost, interest, &c., as well as in the capital employed. But suppose that I am in error in this (which, as I have devoted so much time to, and so closely examined the whole subject, besides having consulted so many authorities, I cannot admit) ; and suppose that I succeed in making this railway as I have proposed ; or suppose I complete only 500, 700, or 1000 miles of it—which I can do only as I effect a settlement of the country—would not even this bring the wilderness into use and occupation by civilised man ? Would it not give employment, homes, and plenty to millions now destitute ? Would it not give to them a cheap means of transport for their products to a market, and to exchange for the mechanical products of Europe ? Would not this benefit their moral and physical condition ? Would it not be a means of civilising the Indians, if that be possible ? Would it not benefit Europe ? And would it not benefit the world ?

The American Congress will doubtless pass my Bill into a Law at the early part of the coming session, but the rapid settlement which is being made on the lands at the beginning of the route is, I fear, likely to render the execution of the plan impossible, because there can be no adequate substitute for these lands, or for the facilities afforded only at the starting point. Then, Mr. President, there can be no hope for this great work, except on your side, on the British territory—where the route is feasible, and where, though there would be great difficulties in carrying my plan into execution, I believe it can be successfully done. Should it fail on the American side, it will then be my desire to see it carried out on your side. It is a work for the world, and as such it is my desire and cherished hope to see it accomplished. I claim no patent for my views, opinions, or suggestions ; but I have made a direct proposition to my own country and to the world, and have laboured hard to show its importance : all I ask is the use of the wilderness land on our side or on your side, and I am ready to redeem the pledge that I have given to the world.

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